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**HYDRO POWER AND ENERGY
PLANNING PROJECT (HPEP)**

TRADE OPPORTUNITIES BETWEEN GEORGIA AND TURKEY

PROJECT REPORT 2

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(HPEP)

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1.0 ABBREVIATIONS USED IN THIS DOCUMENT

| Acronym | Definition |
|--------------|--|
| BSR | Balancing and Settlement Regulation |
| DAM | Day Ahead Market |
| EML | Electricity Market Law |
| EMRA | Energy Markets Regulatory Authority |
| ENTSO-E | European Network Transmission System Operators |
| EPIAS | Energy Market Operation Corporation |
| HEPPs | Hydro Electrical Power Plants |
| BIST | Istanbul Stock Exchange |
| MMS | Market Management System |
| MFSC | Market Financial Settlement Center |
| NLDC | National Load Dispatch Center |
| OTC | Over the Counter |
| HPP | Hydro Power Plants |
| TCAT | Auction Platform of TEIAS |
| TEIAS | Turkish Electricity Transmission Company |
| TETAS | Turkish Electricity Wholesale Company |
| VOB/ TurkDex | Turkish Derivatives Exchange |

2.0 INTRODUCTION

This report is the second in a series of reports developed by DTT Turkey under a sub-contract with USAID's Hydro Power and Energy Planning Project. The purpose of this sub-contract is to explore and provide recommendations for enhancing the proposed electricity trading mechanism for competitive electricity trading between Georgia and Turkey.

In the first report, day ahead planning activities and software developed for day ahead planning were defined in detail, together with the roles of the relevant parties and schedule of all operations.

In this report, updates about the latest developments in the electricity sector in Turkey since the last report will be discussed, considering the amendments in legislation and import/export activities. After these changes in the Turkish electricity wholesale market mechanism are clarified, possible trading mechanisms between Georgia and Turkey including (i) Energy Markets Operation Company (EPIAS) power exchange node establishment possibility at Georgia-Turkey border, and (ii) the mechanisms and an outline of procedures that enable Georgian Hydro Power Plants (HPPs) and traders to sell energy to Turkish off-takers will be discussed. Alternative trading mechanisms including market coupling opportunities are briefly discussed in this report and these discussions will be elaborated in upcoming presentations.

3.0 UPDATE ON THE LATEST DEVELOPMENTS IN THE ELECTRICITY SECTOR IN TURKEY SINCE THE LAST REPORT

3.1 REGULATORY ENVIRONMENT

Electricity Market Law No. 4628 contained ambiguous and contradictory statements in its latest form that affected existing and potential participants in the sector. The Law has changed several times since 2001 in order to adopt the dynamic nature of the electricity sector. Last year a detailed study was conducted on the Law and it was decided to prepare new law rather than making drastic changes in the current one. Electricity Market Law No: 4628 was not repealed and is entitled as «Law on Organization and Duties of the Energy Regulatory Authority» by the new law. The purpose of this law is to set the principles for the establishment of the Energy Market Regulatory Authority and the guidelines of the organization, duties, powers and responsibilities of its personnel.

A completely new Electricity Market Law No. 6446 was formed with the aim of meeting the requirements of current market situation, and those of existing, and potential market participants while considering Turkey's vision for becoming an energy trading hub.

The most important changes are as follows;

- Combination of wholesale and retail activities under «Supply License» to integrate supply activities in the market.
- Establishment of EPIAS as the Energy Exchange, undertaking the central market operation activity to emphasize the organized market structure of the Turkish Electricity Market (explained in detail later in this document).

- Extensions of the incentives for generation and distribution companies to encourage investments in the market.
- Restructuring the regulatory framework by separating the Energy Market Regulatory Authority's (EMRA) organization and duties (Electricity Market Law No. 4628) and the rights and responsibilities of the existing and potential market participants (Electricity Market Law No. 6446).
- Introduction of a pre-license to protect and support real investors and speed up investments in generation. A pre-license, valid for 24 months prior to a full license is intended to enable companies to apply for permits and approvals. The Board, depending on the source type and the installed capacity may extend this period by 12 months.

Legal entities that intend to engage in generation activity in the market must obtain the relevant license for each; and for each facility if the subject market activity is to be performed in more than one facility.

All generation license applications that are not yet finalized will be regarded as pre-license applications.

Amendments regarding Market Operation Activity and the establishment of EPIAS in the new Law are hereby explained in more detail:

Market Operation Activity

Although market operation activity was not clearly defined in the previous Electricity Market Law (EML), the Market Financial Settlement Center (MFSC) was responsible for the market operation and settlement activity. The National Load Dispatch Center (NDLC) was responsible for the Balancing Power Market and Ancillary Services as system operator. In addition, market operation activity and license requirements did not exist in the previous EML. Market operation activity subject to a **market operation license** was introduced in the new law. Market operation activity covers the operations in the organized markets and financial settlement of the transactions made in these markets.

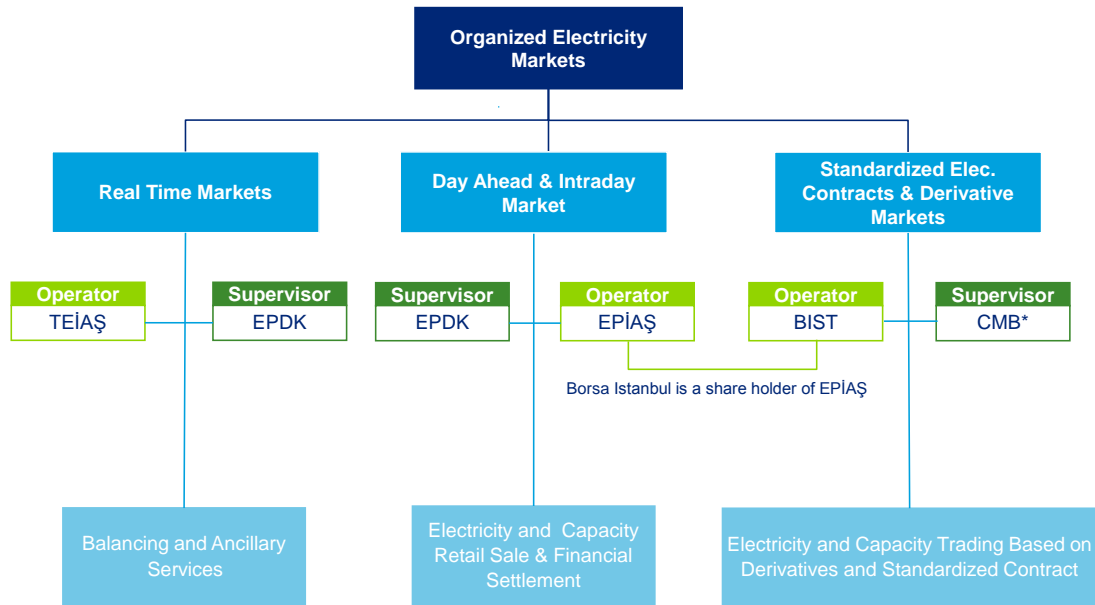
Organized markets include the following operations:

- Day-ahead & Intra-day market – EPIAS
- Standardized electricity contracts and derivatives market – Istanbul Stock Exchange (Borsa Istanbul - BIST)
- Balancing power market and ancillary services – Turkish Electricity Transmission Company (TEIAS)

Separation of market activity from TEIAS and the establishment of an autonomous body for market operations as in the European markets were on the agenda for a long time. It should be stated that new EML is:

- Paving the way for EPIAS and perhaps other organized markets to be developed under EPIAS.
- Forming a more transparent and autonomous structure that can compete in the international markets.
- Forming price signals for investment
- Ensuring the faster realization of investments

To sum up, with the new Law, EPIAS will have a market operation license for the Day Ahead Market and the Intraday Market, whereas TEIAS will have a market operation license for balancing and ancillary services. TEIAS will continue to operate the Day Ahead Market (DAM) and Intra-day market until EPIAS becomes operational. In Figure 1, the organized electricity markets are shown.



*Capital Markets Board of Turkey

Figure 1 – Organized Electricity Markets in Turkey

The roles and responsibilities of TEIAS, EPIAS and BIST are as follows according to the new Law:

TEIAS

The National Load Dispatch Center (NDLC), acting under TEIAS, is still responsible for the Balancing Power Market and Ancillary Services as system operator. TEIAS will be responsible for;

- Operating the balancing power market and ancillary services market with a market operation license
- Preparing, revising and inspecting the transmission, connection and use of system tariffs
- Conducting load dispatch and frequency control
- Carrying out substitution and capacity expansion
- Monitoring real-time system reliability
- Identifying ancillary services needs
- Engaging in international interconnection activities in line with the decisions of the Ministry
- Providing non-discriminatory transmission and connection services to all system users

EPIAS

- According to the new Law, a new company defined as the Energy Markets Operation Corporation, EPIAS, subject to Turkish Commercial Code and legislation provisions shall be established.
- EPIAS shall commence with preparation of the master agreement within six months following the enactment of the Law, and registration and publishing of the master agreement in the trade registry.



- Organizational structure and working principles of EPIAS will be organized with a Regulation that will be published by EMRA within six months following the enactment of the law. For issues regarding the markets to be operated by BIST, consultation with Capital Markets Board of Turkey is required.
- Direct and indirect equity share of public institutions and public equity corporations cannot exceed 15%, except BIST. The Council of Ministers is authorized to change this ratio.
- EPIAS will operate the organized wholesale electricity markets except from those that are operated by BIST and TEIAS. EPIAS will also conduct financial settlement and other financial operations of the organized wholesale markets operated by TEIAS.
- EPIAS starts market operation activities after having received the necessary market operation license from EMRA, within six months following its establishment.
- Until EPIAS is licensed for market operation, TEIAS will operate the relevant markets without a license.

Borsa Istanbul (BIST)

- Operator of the markets in which derivative products of electricity energy and/or capacity are set as BIST. Licensing, working principles, procedures regarding settlement operations, operation tariffs, etc. will be organized with secondary legislation published by the Capital Markets Board of Turkey.
- Turkish Derivatives Exchange (TURKDEX) joined BIST on August 5, 2013
- The main objective of integrating these activities under one entity was to increase the value of BIST by extending its operations.
- In the current situation, intermediary financial institutions are the major players in BIST. These institutions are not specialized in the electricity derivative market and as such, electricity derivatives will constitute only a small percentage of the BIST volume. The concentration of financial institutions and management of BIST might be low for electricity derivatives.

Secondary Regulation Amended in Line with the New EML

In line with the new Electricity Market Law, there has been some changes in secondary regulation. Related Regulations that were amended are:

- **Electricity Grid Regulation (dated 28.05.2014):** Electricity Market Grid Regulation dated 03.01.2013 was repealed and a new Regulation was published on 28.05.2014. The new Regulation includes additional and more detailed provisions regarding the planning and design principles of the transmission grid, technical criteria regarding performance of the facility and equipment of the grid, performance and design conditions of the generation facility, terms of communication, emergency precautions applied to generation facilities and statistical analysis.
- **Energy Market Notification Regulation (dated 27.05.2014):** This new Regulation covers principles and procedures regarding collection of information and data to be used in energy market monitoring, analysis and reporting activities. The regulation does not cover the data that will be collected, but rather the methodology of collection.
- **Electricity Market Import and Export Regulation (17.05.2014):** There is not a significant change in the regulation that is expected to affect import/export from/to Georgia except the first item:
 - Principles and procedures regarding capacity allocation of interconnections other than synchronous parallel interconnections and principles and procedures regarding a secondary market for commercial transmission rights will be published within one month following the enactment of this Regulation
 - In line with the new EML, wholesale licenses are amended as a supplier license.
 - TETAS can sign energy purchase or sales agreement within the scope of its existing concession and operation agreements, and can trade energy within the scope of intergovernmental agreements.
 - To import energy in frontier zones, an isolated region method can be used temporarily with the approval of the Ministry if only it is a technical requirement.
 - In Turkish side, capacity on an interconnection line can be allocated to a participant for at most one year at a time; which may create problems while enhancing long term trade from Turkey to Georgia
- Legal entities that can import/export energy are:
 - Private sector supply licensees
 - TETAS, within the scope of intergovernmental agreements
 - Generation companies (only export)
- **Electricity Market Consumers Services Regulation (dated 08.05.2014):** This Regulation covers principles and procedures that will be applied to service providers and customers within the scope of retail sales contracts and bilateral contracts. Operational details for eligible consumers are explained in this Regulation.

- **Electricity Market Licensing Regulation (28.01.2014):** Following the EML that includes articles related to pre-licensing, the Electricity Market Licensing Regulation was amended. The new Regulation defines rules and procedures regarding pre-license and licensing and defines the rights and responsibilities of pre-license and license holders.
- **Electricity Market Connection and System Usage Regulation (dated 28.01.2014):** This new Regulation consists of principles and procedures regarding real persons' or legal entities' connection to the distribution or transmission systems and usage of these systems and interconnection lines.
- **Regulation on Unlicensed Electricity Generation (02.10.2013):** This Regulation consists of principles and procedures regarding application for unlicensed generation, evaluation of these applications, technical conditions for connection to the system, rules to be applied for the excess energy that will not be used, responsibilities and rights of network operators and auditing of the facilities. With the amendment, the above mentioned rules are explained more clearly and in more detail.
- **Regulation regarding Certification and Supporting Renewable Energy Resources (01.10.2013):** The most important change that comes with the amended Regulation is the articles related to a Renewable Energy Resource Certificate. This certificate is given to define the generation resource to trade the energy both in domestic and international markets, to benefit from the Renewable Energy Resource Support Mechanism in Turkey and for use in emission trading. The certificate is valid throughout the license duration. In the amendment a new article regarding hybrid facilities was also added.
- **Regulation regarding Issuance of New Generation Licenses to the Facilities under Construction in Electricity Market (dated: 04.05.2013):** This Regulation applies to power plants whose construction was started but its generation license was cancelled or stopped. In that case, if the generation licensee applies to EMRA and it is confirmed that there is a point of no return for this investment within the framework of public interest, a new generation license is issued to the legal entity.

3.2. MARKET PRINCIPLES AND PROCEDURES – BIDDING, SCHEDULING, DISPATCHING AND SETTLEMENT

There has not been a critical change in the market principles and procedures since the submission of the last report regarding market rules. As mentioned in previous reports, the Turkish wholesale electricity market consists of an organized day ahead market (DAM) operated by Market Operator, a real-time system balancing mechanism operated by TEIAS as the Transmission System Operator, and a bilateral contracts market. In addition, there are organized markets for procurement of ancillary services. Since December 2009, hourly settlement of imbalances has been performed, for which detailed information was provided in previous reports.

However, as a result of increasing meter and eligible consumer numbers (more than 900,000 as of May 2014) a new mechanism, namely pre-settlement, started to be discussed for the last year. This change will enable all of the meters in Turkey (ca. 30 Million) to be handled and processed in PMUM (or EPIAS when established). This pre-settlement process will also act as the communication hub between

distribution companies (meter data reader) and supply companies (retail and wholesale). Together with this mechanism, it is expected that the eligible customer module of the existing PMUM software (DGPYS) will be redesigned and developed. In addition, the legislative framework will be developed for this change. It is important to emphasize that this development will be done for a healthier and effective market operation and that existing market rules for settlement will not change.

3.3. EXPECTATIONS OVER THE NEXT FEW YEARS REGARDING THE TURKISH ELECTRICITY MARKET

Establishment of EPIAS:

The most important change in the market since the last report, where expectations over the next few years regarding Turkish electricity market were explained, is the development regarding the establishment of EPIAS.



Within the framework of the new Electricity Market Law, a new energy market operator, EPIAS, was to be established by September 2013. However there have been some delays in the process. Since enactment of the Law, EMRA conducted studies regarding preparation of Articles of Association, organized several workshops with stakeholders, and TEIAS studied the rating of the capital (for its existing software). Last month the High Planning Council and Prime Minister approved the capital amount as 60 Million TL. It is expected that within the coming week EMRA will start the process of determining the willing participants to become shareholders in the company. Following the call for possible shareholders (that are also market participants) and their acquiring shares, signature of the article of association will be completed, and EPIAS will start its operation. Before starting operation EPIAS needs

to be issued a market operation license by EMRA. This process is expected to last between 2 to 4 months until the legal establishment of EPIAS. As can be seen the process has been already delayed with respect to the legal deadline in the law, for at least 9 months as of the date of preparation of this report.

The shareholder structure is expected to be 30% public sector (including TEIAS), 30% BIST and 40% private sector (market participants). It is thought that private sector market participants' share shall be in equal amounts and limited to 4%.

New Market Places:

There has not been a significant change regarding the intraday, derivatives and OTC markets in Turkey since the last report but the current situation in each of the markets is described below.

Intraday Market: Legislative and software infrastructure for the intraday market was developed by MFSC and started to be tested by market participants. The regulation has not yet been published by EMRA, so financial operation has not started. The relevant regulation change is still under discussion between EMRA and TEIAS (PMUM).

Derivatives Markets: In Turkey, market participants are eager to participate in derivatives market where they expect healthier price signals. Together with the derivatives market, it is believed that investors will invest in a more secure environment and will find it easier to obtain financial loans. The new Law states that BIST will be responsible for operating the energy derivatives markets. After the establishment of BIST, BIST has taken over the organization of existing futures contracts from old Turkish Derivatives Exchange. Since August 2013 these contracts are open for trading under BIST but the volume is unfortunately lower than what it was under Turkdex. The trading volume of the existing contracts can be considered as practically zero. The market participants argue that the underlying day-ahead (spot) price is not healthy and that is why they do not prefer trading financial futures in BIST. But on the contrary as will be discussed in the next sub-section, trading volume in OTC markets continue to increase, where physical futures are traded. This shows that there is a demand for mid-term (1 to 12 months) physical products. Organization of the energy derivatives under a separate body than the Energy Exchange should also be re-considered.

OTC Markets: At present there are a few platforms where market participants can buy and sell through OTC markets. The most common ones are Tradition (TFS) and Volt (local brokerage house). The traded volume in these platforms is continuously increasing but still quite small (not liquid enough). One of the primary barriers to development is the existence of stamp duty responsibility (cost) for each contract traded on these platforms.

Market Surveillance:

A separate and semi-autonomous Market Surveillance department will be set-up within EPIAS, according to the approved regulations. The building blocks of a market which is competitive, active and fully functioning are the market participants' trust in the markets transparency, and smooth and accurate operation of the pricing mechanism. As seen in the examples from liberalized markets, the establishment of a market surveillance system is considered as necessary to control and monitor the accurate and appropriate operations in electric market, especially by the market operators and regulatory authorities. A market surveillance unit is responsible for recording all the market's trade data, following up the operations, and controlling whether the market participants are acting in line with the regulations and other related procedures. Any operations that are considered to be suspicious are inspected and reported to the higher authorities. With long term market surveillance, the shortcomings in the market design and rules can be identified and necessary actions can be taken. From a technical and political point of view, the duties of the market surveillance unit are rather difficult. Therefore, this unit should have sufficient authorization, information and resources and protect its independence. Within the scope of all this information, it is believed that the market surveillance operation in the current market structure needs to be strengthened in Turkey. It is also advisable to establish a market surveillance unit within the framework of Georgia electricity market.

The Establishment of Regional Markets and Market Coupling

In accordance with Turkey's strategic targets, another important topic related to energy market that needs consideration is the promotion of the market coupling. This is in line with the objectives of integrating Turkey in the European electricity wholesale market and establishing an integrated energy market via the European Union's day-ahead and intraday markets in Europe. The diversity of supply in the market, increased liquidity and optimum utilization of interconnection capacity can be achieved with market couplings. In its current state, the day-ahead market regulations and software infrastructure operated by the Market Financial Settlement Centre, allows for market splitting and the establishment of regional market. Furthermore, the intraday market which is continuing its regulation development and infrastructure allows for establishment of regional markets as well. Within this scope, Turkey will consider the possibility of coupling its day-ahead and intraday markets with the Southeast European Market and other neighboring countries such as Georgia. The new Law enables such cooperation.

3.4. TURKISH IMPORT & EXPORT PROCEDURES

Currently Turkey has electricity interconnections with Greece, Bulgaria, Georgia, Iran, Iraq and Syria. To date, import and export volumes are almost negligible compared to the overall electricity demand of Turkey. ENTSO-E synchronization has increased the amount of electricity traded. Total import and export volume in 2013 is 3.6 % of gross consumption.

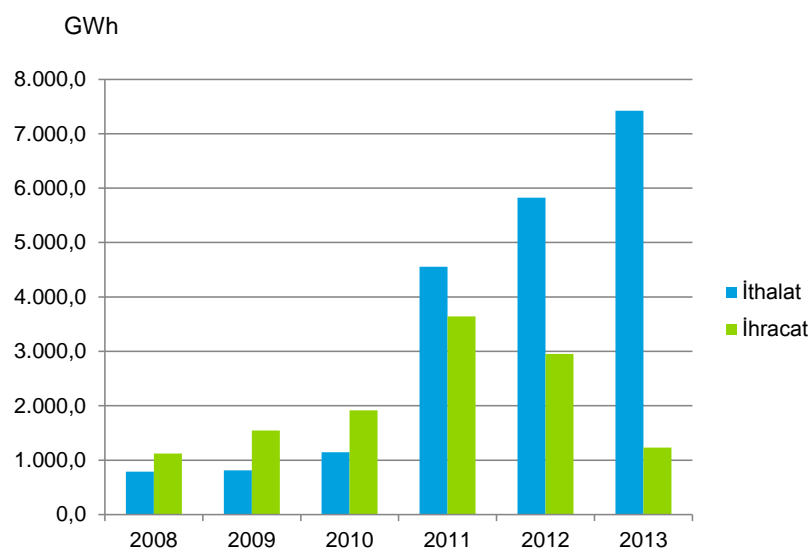
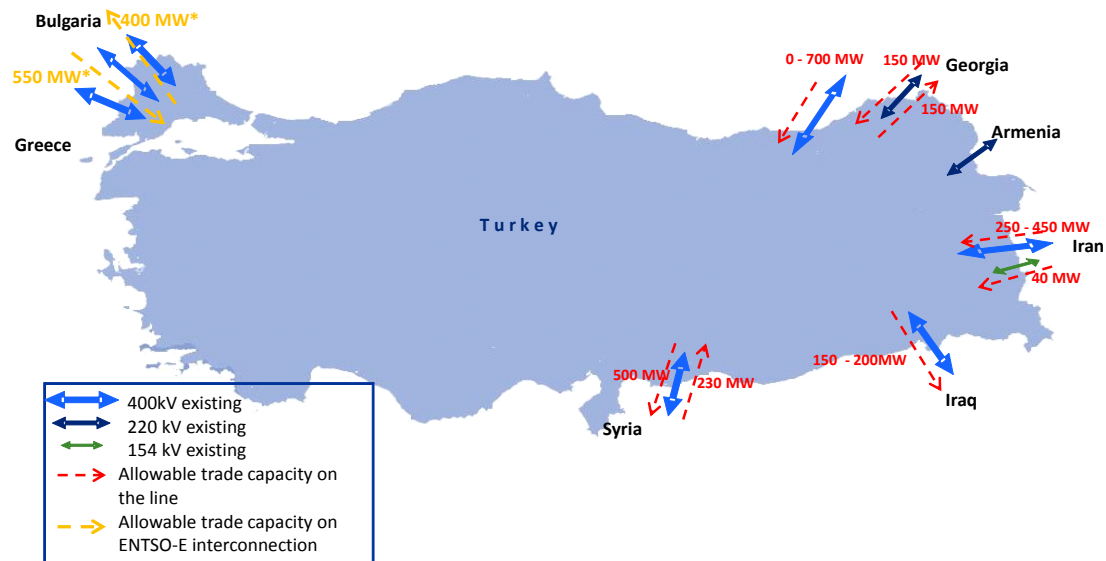


Figure 2 - Total Import – Export Figures for the last 5 years

Source: TEİAŞ

As it can be seen from Figure 2, depending on the electricity traded through ENTSO-E connection with Greece and Bulgaria, import and export figures have been increasing since 2011. In the last 5 years, except 2011 and 2012, import and export volumes were nearly at 1000 GWh levels whereas in 2011 it increased to 3500-4000 GWh levels. On the other hand, in 2013 import volume increased to 7,425 GWh whereas export decreased to 1,231 GWh.

The map below illustrates the existing interconnection lines. Additionally, details regarding seasonal capacities for 2014 based on different trade methods can be seen in the following Table 1.



* Figures are the maximum trade limits for the whole ENTSO-E interconnection. 400 MW of export from Turkey to Europe and 550 MW of import from Europe to Turkey are determined as maximum values by ENTSO-E for the trial period of Turkey. Currently, net transfer capacity in these lines are announced monthly within these limits.

Figure 3 - Existing Interconnections of Turkey

Export and imports methods including synchronous parallel operation, asynchronous parallel operation, directed unit and isolated Region are explained in detail in previous reports of the first Project, so they will not be described in this report. It should be noted that the rules defined in that report are still the same.

Table 1 – Summary of Net Transfer Capacities for 2014¹

| From | To | Connection method | Allocation Period | Net Transfer Capacity (MW) | Capacity that can be allocated (MW) | Allocated Capacity (MW) |
|------------|------------|----------------------|-------------------|----------------------------|-------------------------------------|-------------------------|
| Turkey | Bulgaria | Synchronous Parallel | Monthly | Monthly determined | Monthly determined | 0 |
| Bulgaria | Turkey | Synchronous Parallel | Monthly | Monthly determined | Monthly determined | 0 |
| Turkey | Greece | Synchronous Parallel | Monthly | Monthly determined | Monthly determined | 0 |
| Greece | Turkey | Synchronous Parallel | Monthly | Monthly determined | Monthly determined | 0 |
| Turkey | Armenia | Directed Unit | - | 0 | 0 | 0 |
| Turkey | Armenia | Isolated Region | - | 0 | 0 | 0 |
| Armenia | Turkey | Directed Unit | - | 0 | 0 | 0 |
| Armenia | Turkey | Isolated Region | - | 0 | 0 | 0 |
| Turkey | Azerbaijan | Directed Unit | Yearly | 0 | 0 | 0 |
| Turkey | Azerbaijan | Isolated Region | Yearly | 50 | 50 | 0 |
| Azerbaijan | Turkey | Directed Unit | Yearly | 100 | 50 | 50 |
| Azerbaijan | Turkey | Isolated Region | Yearly | 70 | 70 | 0 |
| Turkey | Iran (1) | Directed Unit | Yearly | 0 | 0 | 0 |
| Turkey | Iran (1) | Isolated Region | Yearly | 0 | 0 | 0 |
| Iran (1) | Turkey | Directed Unit | Yearly | 0 | 0 | 0 |
| Iran (1) | Turkey | Isolated Region | Yearly | 40 | 0 | 40 |
| Turkey | Iran (2) | Directed Unit | Yearly | 0 | 0 | 0 |
| Turkey | Iran (2) | Isolated Region | Yearly | 0 | 0 | 0 |
| Iran (2) | Turkey | Directed Unit | Yearly | 0 | 0 | 0 |
| Iran (2) | Turkey | Isolated Region | Winter | 450 | 0 | 450 |
| | | | Spring | 350 | 0 | 350 |
| | | | Summer | 250 | 0 | 250 |
| | | | Autumn | 300 | 0 | 300 |
| Turkey | Iraq | Directed Unit | Yearly | 0 | 0 | 0 |
| Turkey | Iraq | Isolated Region | Winter | 150 | 0 | 150 |
| | | | Spring | 200 | 50 | 150 |
| | | | Summer | 150 | 0 | 150 |
| | | | Autumn | 170 | 20 | 150 |
| Iraq | Turkey | Directed Unit | Yearly | 0 | 0 | 0 |
| Iraq | Turkey | Isolated Region | Yearly | 0 | 0 | 0 |
| Turkey | Syria | Directed Unit | Yearly | 500 | 500 | 0 |
| Turkey | Syria | Isolated Region | Yearly | 500 | 500 | 0 |
| Syria | Turkey | Directed Unit | Yearly | 230 | 230 | 0 |
| Syria | Turkey | Isolated Region | Yearly | 0 | 0 | 0 |

ENTSO-E in more detail

Trial Synchronous Parallel Operation was started in September 2010 and after ensuring the stability and successful completion of the trial stage for non-trade exchange, the final stage for trade exchange was reached in June, 2011. In this phase, initially 400 MW of capacity from the direction of Europe to Turkey and 300 MW of capacity from the direction of Turkey to Europe for electric energy trade has been allowed. Following the ENTSO-E decision in July 2013, the above mentioned capacities have been increased to 550 MW from Europe to Turkey and 400 MW from Turkey to Europe.

On September 19, 2013, the ENTSO-E Regional Group Continental Europe (RGCE) announced the positive results of the trial period which tested the permanent interconnection of the Turkish Electricity System and the Continental Europe electricity system. Consequently, the trial interconnection period was offered to be extended for a year. Within this year, completion of the technical improvements anticipated by ENTSO-E and signing the Long Term Contract is foreseen. This would make the standards and obligations within the scope of the TEİAS and ENTSO-E interconnection permanently binding.

As mentioned in the previous report, the 65% and 35% of the exchange capacity of Turkey - ENTSO-E is offered for usage in the Turkey-Bulgaria and Turkey-Greece

¹ Source: TEİAS

borders respectively. Half of this capacity is allocated by TEİAS and the other half is allocated by the neighboring country Transmission System Operator (ESO, EAD or IPTO). To comply with the ENTSO-E applications, Electricity Market Import and Export Regulation has been changed and put into action by publishing in the Official Gazette dated 01.06.2011 and numbered 27951. With this regulation, the capacity allocation on TEİAS side is offered to market participants by explicit auction in an electronic environment via TCAT (Auction platform of TEİAS) belonging to TEİAS. With the monthly auctions that are currently held, the market participants can have access to capacity allocation opportunities and after the full membership, longer term capacity allocation auctions will be considered as well.

Interconnection between Turkey and Georgia

Hopa (Turkey) – Batumi (Georgia)

Interconnections capacities for this line are as follows:

| From | To | Connection method | Allocation Period | Net Transfer Capacity (MW) | Capacity that can be allocated (MW) | Allocated Capacity (MW) |
|------------------|------------------|-------------------|-------------------|----------------------------|-------------------------------------|-------------------------|
| Turkey (Hopa) | Georgia (Batumi) | Directed Unit | Yearly | 150 | 150 | 0 |
| Georgia (Batumi) | Turkey (Hopa) | Directed Unit | Yearly | 150 | 150 | 0 |
| Turkey (Hopa) | Georgia (Batumi) | Isolated Region | Yearly | 150 | 150 | 0 |
| Georgia (Batumi) | Turkey (Hopa) | Isolated Region | Yearly | 15 | 0 | 15 |

Previously, TETAŞ had priority both for import and export for 50% of the transmission capacity. Since TETAS's energy trade agreement terminated as of 10.03.2013 and has not yet been renewed, TETAS cannot currently export energy. On 22.10.2013, EMRA determined that a private sector company would have the right to export energy by the isolated region method and the license of this company was amended on 04.03.2014. However, the company declared that they will not be able to start exporting before May 2014.

Considering hydroelectricity generation power plants that already exist and that are under construction, net transfer capacity was determined as 15 MW for the year 2014. These capacities are valid only if frequency and voltage of the electricity to be transferred is equal to the nominal operating values stated in Interconnection Operation Agreement signed between Georgia and Turkey.

Borçka (Turkey) – Akhaltsikhe (Georgia)

Asynchronous parallel operation method will be used for this line. Tests and construction of the interconnection is complete. Net transfer capacities for December 2013 and 2014 are as follows:

| Month | Net Transfer Capacity (from Georgia to Turkey) - NTC | | Note | Net Transfer Capacity (from Turkey to Georgia) - NTC | | Capacity that can be used for electricity transmission (from Georgia to Turkey) - KAK |
|------------|--|------|--|--|------|---|
| | Min. | Max. | | Min. | Max. | |
| Dec 2013 | 250 | 500 | Export duration (at min capacity) will not exceed 8 hours in a day | 0 | 0 | Capacity could not be allocated |
| Jan 2014 | 250 | 500 | Export duration (at min capacity) will not exceed 8 hours in a day | 0 | 0 | Capacity could not be allocated |
| Feb 2014 | 250 | 500 | Export duration (at min capacity) will not exceed 8 hours in a day | 0 | 0 | Capacity could not be allocated |
| March 2014 | 0 | 350 | Export duration (at min capacity) will not exceed 16 hours in a day | 0 | 0 | Capacity could not be allocated |
| April 2014 | 0 | 100 | Export will be determined mutually by the System Operators considering system conditions | 0 | 0 | Capacity could not be allocated |
| May 2014 | 0 | 100 | Export will be determined mutually by the System Operators considering system conditions | 0 | 0 | KAK: 7.3 MW |
| June 2014 | 0 | 350 | Export duration (at min capacity) will not exceed 16 hours in a day | 0 | 0 | KAK: 39.2 MW |
| July 2014 | 100 | 700 | Export duration (at min capacity) will not exceed 8 hours in a day | 0 | 0 | KAK: 233 MW |
| Aug 2014 | 100 | 700 | Export duration (at min capacity) will not exceed 8 hours in a day | 0 | 0 | KAK: 630.8 MW |
| Sep 2014 | 500 | 700 | Export duration (at min capacity) will not exceed 8 hours in a day | 0 | 0 | KAK: 606.6 MW |
| Oct 2014 | 500 | 700 | Export duration (at min capacity) will not exceed 8 hours in a day | 0 | 0 | KAK: 605.3 MW |
| Nov 2014 | 700 | 700 | | 0 | 0 | KAK: 606.6 MW |
| Dec 2014 | 700 | 700 | | 0 | 0 | KAK: 610 MW |

According to the clause *“In any case, the entity to whom Available Transfer Capacity (ATC) will be allocated is decided by the exporting country.”* stated in Clause b of Article 5, titled *“ATC and Allocation of Capacity”* in the Turkey – Georgia Cross Border Electricity Trading Agreement dated 20.01.2012², and *“the exporting Party shall allocate capacity”* stated in Clause 4 of Article 4 titled *“Allocation of Capacity”* in Interconnection Operation Agreement³, **the capacity allocation for the Borçka – Akhaltsikhe Interconnection Line capacities mentioned below will be decided by Georgia in those months that Georgia is determined to be the exporting country.**

Those Companies that obtained a capacity allocation from Georgia and legal entities having a supply license from Turkey, and in line with the Electricity Market Import and Export Regulations, the legal entities having a supply license should apply to the Energy Market Regulatory Authority for amendment of their licenses. Following the amendment of license amendment process, electricity transfer can be initiated.

Turkey and Georgia have jointly determined the Net Transfer Capacities of Borçka – Akhaltsikhe Interconnection Line as follows. Both the minimum and the maximum capacities are determined considering expected Turkish hydroelectric generation in the Eastern Black Sea Region for transfer of electric energy from Georgia to the Turkish System. Until the new 400 kV Kurşunlu – Sincan Energy Transmission Line is commissioned, when an n-1 constraint in the 400 kV system or maintenance work, the Keban Switch-2 in Eastern Black Sea, Central Black Sea and Eastern Anatolian Region and the 400 kV Borçka – İspir – Erzurum, İspir – Bağıştaş – Keban transmission lines between the Kayabaşı Transformer Station region can require reduction in the electric energy import from Georgia even down to zero.

Below figure illustrated the planned interconnections for the year 2015.

² Signed by the Ministries of Energy from Turkey and Georgia, which took effect after publication in the Official Gazette dated 11.06.2013 and numbered 28674.

³ Signed by Turkish Electricity Transmission Corporation (TEİAŞ) General Directorate and Georgian State Electrosystem (GSE) on 19.09.2013 which took effect by the Decision dated 11.09.2013 and numbered 31-429 of TEİAŞ Executive Board.



Figure 4 - Planned Interconnections after 2015

Turkey wants to increase electricity trade with Georgia due to increasing demand in Turkey and the rich renewable energy resources in Georgia. After planned interconnections with Georgia are completed, up to 1000 MW of capacity will be available. However, Turkey also has rich hydro resources in the north and northeast regions. Therefore, with the existing transmission lines within Turkey, it does not seem possible to transfer 1000 MW of energy from Georgia to Turkey. Currently, 700 MW of energy is allowed to be imported during the summer and 100 to 350 MW of energy is allowed to be imported during spring from Georgia. For the interconnection capacity to be used fully, the Ağrı – Van – Siirt and Keban – Bağıştaş – İspir transmission lines have to be completed. After completion of these lines, the interconnection could be used fully as of 2017 when the new transmission lines are scheduled to be complete according to TEIAS Investment Plans.

Planned interconnections with other neighbors of Turkey are as follows:

- 600 MW on 400 kV Van – Iran border transmission line (Back to Back station) is expected to be completed by 2016. After this line is completed, studies regarding a second line are expected to start.
- Reinforcement on Turkey – Iraq interconnection is continuing. Currently trade is possible via an isolated region method. Studies for a Back-to-Back connection are being performed.
- In order to enhance more electricity transfer on the Syria border, planning studies of a DC Back-to-Back station on the Birecik – Halep transmission line have been continuing. It is expected to be completed by 2017. However, no trade is occurring on this interconnection currently.

4.0 EPIAS POWER EXCHANGE NODE ESTABLISHMENT POSSIBILITY AT THE GEORGIA-TURKEY BORDER

With the current market structure in Turkey, exports and/or imports from or to neighboring countries can take place with the approval of EMRA. Export and/or import activities of these legal entities are regulated within the scope of their supply license and no additional import/export license is required.

Turkey is synchronously connected to ENTSO-E and trade between Turkey and Bulgaria / Greece is conducted via monthly auctions. Some special conditions are applied to ENTSO-E interconnection. If the companies obtain the commercial operation right on an interconnection on the European border, EMRA automatically inserts the right to the relevant supply license at no charge and without any further application. However, this provision is only valid for synchronous parallel connection on the European border. Current import and export regulation in Turkey requires an application for a license amendment and payment of license amendment fee every year for asynchronous connections.

The Akhaltsikhe – Borçka line is the first back to back connection with Turkey. Therefore it is strongly recommended that Turkey adopt new and more practical rules and provisions regarding capacity allocation in cross border trade through asynchronous connections that are similar to synchronous connection capacity allocation. This would include modifications to the CBETA to remove the exporting country constraint to allow simultaneous exports and imports at any time of the month. Trade permission rules, such as allowing automatic renewal of the license without an application and not paying a license amendment fee each year for long term contracts in Turkish side, might be redesigned in order to simplify and speed-up the procedures. This would enhance trade between Turkey and Georgia so that utilization of the line is maximized.

Several options, including market coupling in the medium term, for cross border trade between Turkey and Georgia are addressed briefly.

Explicit Auctions

Since there is not an existing day ahead market in Georgia, cross border capacity allocation through explicit auctions should be used as the trading mechanism in the short term. According to the agreement between Turkey and Georgia concerning cross border electricity trade via Borçka-Akhaltsikhe interconnection line, allocation of the line will be done by the exporting country; that is, Georgia will allocate the capacity most of the time since it is the exporting country most of the time. Therefore, flexible and practical rules should be established on the Georgian side.

One of the important points to consider regarding allocation rules is the allocation period. The allocation period should be long enough to address financial considerations but short enough to ensure balancing flexibly. When these issues are considered, multiple allocation periods can be applied where some of the capacity is allocated for a longer period, i.e. yearly, and the remaining capacity can be allocated for shorter periods (i.e. monthly or weekly). In order to achieve this, capacity allocation rules as well as the communication between the TSO's of the both countries should be well defined. Additionally, selling the energy to Turkey after obtaining the energy transfer right in the interconnection line is another issue to be

considered. Energy might be sold into the Turkish market by bilateral contracts or by selling into the market. It is hard to find counterparty in Turkey for all generators in Georgia. Moreover, with the existing market rules, Georgian generators cannot sell directly into the Turkish electricity market. A potential solution is to use a supplier in Turkey to serve as an aggregator and sell the aggregated energy into Turkish day ahead market.

An important point to consider in this mechanism is that separate operations are required for both exporting and selling the energy into Turkish market. Firstly, exporters should obtain the interconnection capacity from the auction, and nominate the amount of energy to be exported at 10:30 a.m. each day. However, this nomination time is before the day ahead market results are announced. Therefore, there exists the risk of not selling the energy into the Turkish day ahead market. In this case allocated interconnection capacity becomes useless and the supplier company (the aggregator) may be in an imbalance position. In the short term, this mechanism can be used temporarily until Georgia establishes its own day ahead market. However a new mechanism that will ensure selling the exported energy into the market may be designed (i.e. payment of a fixed price for the exported energy, evaluating the exported energy within the scope of renewable energy support mechanism etc.)

Table 2 – Advantages and disadvantages of the explained explicit auctioning mechanism

| Advantages | Disadvantages |
|--|---|
| <ul style="list-style-type: none"> – This mechanism can be applied immediately – There is no need for new legislation or amendment in existing ones (it can be applied within the current legislative environment) | <ul style="list-style-type: none"> – This mechanism is not an efficient way of utilizing the capacity – Capacity and energy trading are done separately – It may be hard to find a Turkish counterparty for every Georgian exporter – There exist the risk of not selling the energy after nominating the export volume – Establishment of a Turkish supplier company may cause legal problems considering different legal frameworks in two countries |

Steps that should be completed for this mechanism to become operational:

- Establishment of a Turkish supplier company (or finding counterparties for all of the energy to be exported)
- Design of a new mechanism that will ensure selling the exported energy into the Turkish market (i.e. payment of a fixed price for the exported energy, evaluating the exported energy within the scope of renewable energy support mechanism etc.)

Trading through PX Node:

The Turkish electricity market is designed to operate on a zonal basis similar to the developed European markets. Therefore, it may be hard to define a real node for Georgian electricity in the Turkish side. Instead of a real locational node, a virtual node (like a different price zone) may be defined in order to let the Georgian HPP's

sell energy to Turkish power market. In this mechanism, the Turkish market operator (EPIAS) can define Georgian zone as a virtual node; a single point where the sales offers are injected into Turkish price zone.

The software infrastructure of MFSC is able to define Georgian PX Node as a separate price zone. However the legal framework does not allow participation of foreign entities in the market. The Turkish MO cannot take the counterparty risk of the Georgian participants. The Turkish MO must ensure financial security of the market and itself. Possible legal arrangements can be established to allow Georgians into the market. An example may be to for Georgian exporters to establish Turkish affiliate companies or contract with a Turkish counterparty to trade on the PX. An alternative to aggregating the sales offers of Georgian generators in the PX node, a MO to MO agreement that allocates counterparty risk might be another approach.

The MO to MO agreement mechanism can be illustrated in the figure below:

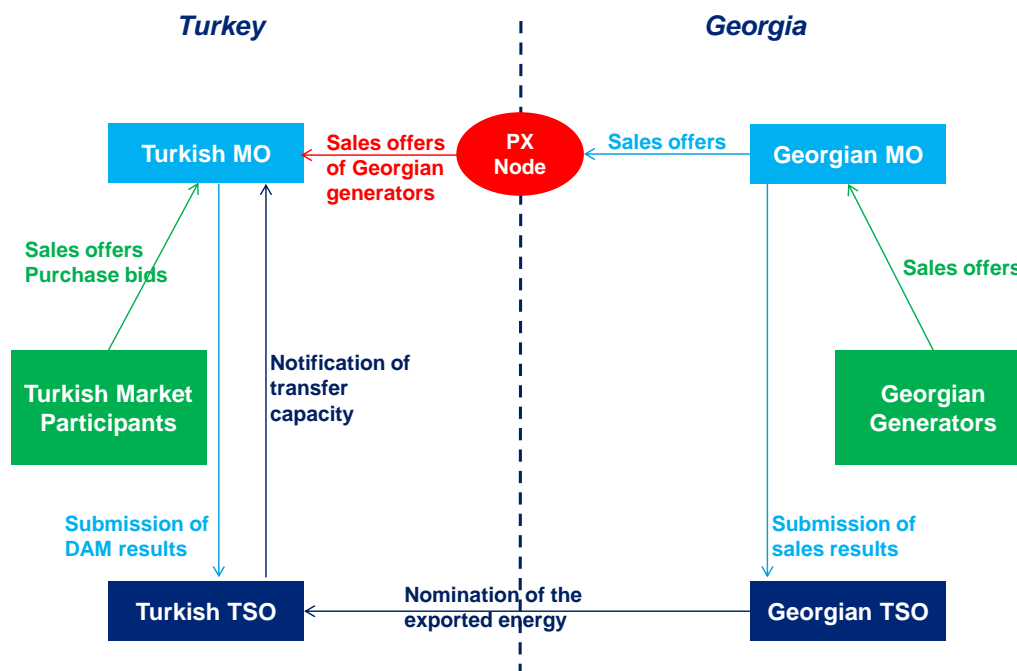


Figure 5 – Trading through PX border node

The mechanism can be summarized as follows:

- A trading agreement between the market operators of the both countries shall be signed; Georgian MO will take the financial risk of all Georgian generators. Therefore a collateral mechanism has to be designed in Georgian side.
- Georgian generators shall submit their offers to Georgian MO daily, on an hourly basis. For this step, Georgian MO should present the bidding platform to the participants or Turkish infrastructure might be used within the scope of the MO – MO Trading Agreement.
- Georgian MO shall submit aggregated sales offers of Georgian generators to Turkish MO, within the specified time intervals stated in Turkish regulations

(especially Balancing and Settlement Regulation). All of the offers shall be submitted into the market management software of Turkey.

- Turkish MO shall operate the market software and determine the DAM results considering two different price zones.
- Turkish MO shall notify the market results to the Turkish TSO and to the Georgian MO.
- Georgian MO shall notify the sales results of Georgian generators and to the Georgian TSO.
- Georgian TSO shall nominate the total sales results to Turkish TSO; and they shall work cooperatively on enhancing the interconnection line security.

One of the problems on applying this mechanism is the lack of a Market Operator in Georgia. There should be an established MO in order to present the offer submission platform to the Georgian generators and to submit the aggregated offers to Turkish MO. If the mechanism is desired to be established as soon as possible without establishment of the MO, a central body might be in charge of the same position (e.g. GSE, clearing house of the stock exchange etc.) in order to ensure financial responsibility for all of the Georgian participants.

Another issue to consider in submission of the sales offers is that, MO or the central body might not want to deal with the separate offers of small HPP's and might desire them to be able to present their own offers directly to the Turkish market. In this case an authentication mechanism is required for Turkish MO to let Georgian participants into software. Authentication should be done by the MO (or the central body referred) and the financial risk of the participants should be ensured by the MO; following, Turkish MO shall give user names for only the participants that are authenticated. In another way, a single user could be defined in the market software for MO, and MO might define sub-users registered under its own user; which will be an easier and more applicable way. Instead of aggregated offers, separate offers shall be evaluated in the Georgian price zone; and other steps are carried out in the same way presented above.

Table 3 – Advantages and disadvantages of trading through PX node mechanism

| Advantages | Disadvantages |
|--|--|
| <ul style="list-style-type: none"> – This is an efficient way of utilizing the interconnection line capacity – This mechanism can be applied without having a DAM in Georgia – This mechanism can be applied by using MFSC (EPIAS when its starts operation) software systems within the terms of MO-MO trading agreement – Exporters avoid the unclear decision of whether transmission capacity should be purchased first and then the energy should be sold second, or vice versa | <ul style="list-style-type: none"> – Establishment of an MO in Georgia is required (or determination of a responsible central body) – Some legislative arrangements should be done in Georgia (submission principles, collateral mechanism, daily planning etc.) |

Steps that should be completed for this mechanism to become operational:

- Establishment of a Georgian MO (or determination of a responsible central body)
- Preparation of MO-MO trading agreement that covers the details of the mechanism and responsibilities of the both parties
- Definition of operational procedures for Georgian generators (submission of offers, daily planning and scheduling, collateral liabilities, payments etc.)
- Updating the necessary regulations (balancing and settlement, collaterals, daily payments etc.) corresponding to the defined operational procedures
- Development (or purchasing, hiring etc.) of the software that will be used for offer submission by market participants in Georgia
- Enhancing the coordination between the MO and TSO in Georgia, and TSO's of both countries

Market Coupling and Implicit Auctions:

In the medium term, following the start of an operational balancing market in Georgia with at least hourly settlement periods and introduction of a day-ahead market (centralized electricity spot market where “next day delivery” hourly products are traded), an implicit auction is recommended as a possible efficient trading method in the market coupling of two countries.

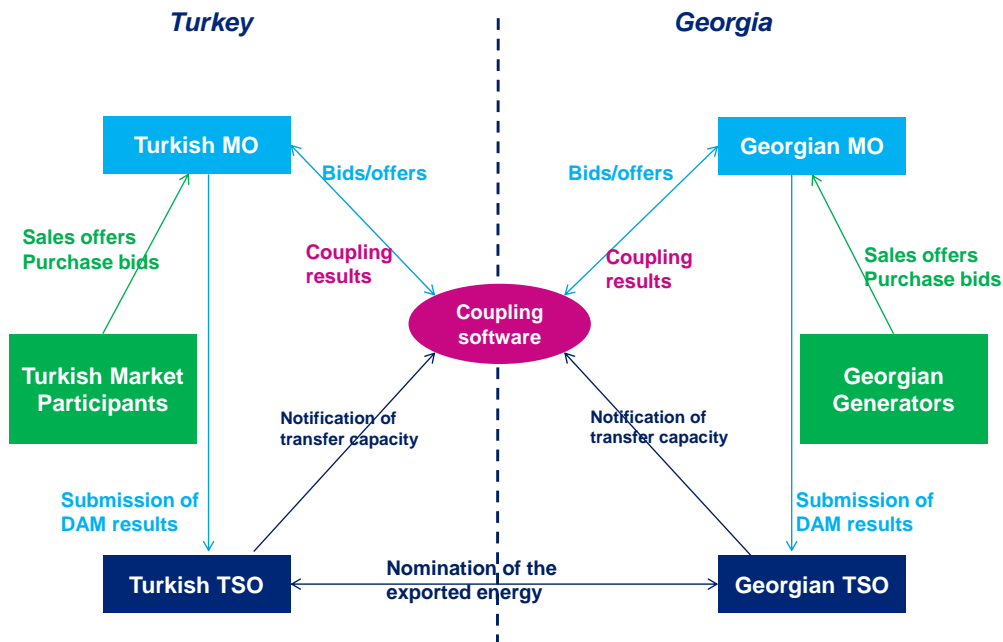


Figure 6 - Trading through market coupling

This market coupling approach has important differences from trading through a PX node. In this arrangement, Georgia would have its own day ahead market operated by the Georgian MO. There would be separate market mechanisms that are run by the MO's of the two countries. The Georgian MO may have its own market software or can contract for market software. Day ahead market procedures of the two countries would be conducted separately and market information would be sent to

the coupling software. Market results combined with the coupling results would be announced to the market participants. The role of the TSO's for both countries are the same as the other trading mechanisms; determination of the transfer capacity, nomination and control of the energy flow in the line etc.

From all of the mechanisms described above, it is highly recommended to implement market coupling and using implicit auctions for cross border trade. Implicit auctions do not require having a capacity allocation right and guarantees the optimal utilization of transmission capacity. By conducting implicit auctions, exporters avoid the unclear decision of whether transmission capacity should be purchased first and then the energy should be sold second, or vice versa. With an implicit auction methodology, all qualified participants become capable of trading in the market mechanism. However, prior to implementation of an implicit auction mechanism, Georgia must have an hourly designed market mechanism, and should also have the corresponding collateral mechanism. After implementation of a day ahead market mechanism in Georgia, EPIAS might provide settlement and invoicing services to Georgian side, within the context of a coordination agreement.

Table 4 – Advantages and disadvantages of market coupling

| Advantages | Disadvantages |
|---|--|
| <ul style="list-style-type: none"> – Market coupling is an efficient way of utilizing the interconnection line capacity – Market coupling does not require a separate capacity allocation mechanism – Exporters avoid the unclear decision of whether transmission capacity should be purchased first and then the energy should be sold second, or vice versa – All participants become capable of trading and no intermediary body is required for energy trading | <ul style="list-style-type: none"> – Establishment of an MO and operational DAM in Georgia is required – Legislative arrangements and market procedures should be well defined in order to operate market coupling effectively |

Steps that should be completed for this mechanism to become operational:

- Establishment of a Georgian MO
- Preparation of MO-MO market coupling agreement
- Definition of operational procedures for Georgian generators (DAM operations, daily planning and scheduling, collateral liabilities, payments etc.)
- Updating the necessary regulations corresponding to the defined operational procedures (balancing and settlement regulation, import-export regulation, collaterals and payments, clearing etc.)
- Development (or purchasing, contracting for) of the DAM and settlement software
- Development (or purchasing contracting for) of the market coupling software
- Enhancing the coordination between the MO and TSO in Georgia, and TSO's of both countries

5.0 RECOMMENDATIONS FOR HARMONIZATION OF GEORGIAN ELECTRICITY MARKET RULES, STANDARD CONTRACTS AND GRID OPERATION RULES WITH TURKISH COUNTERPARTS

In the medium term, Georgia should develop its own market rules and should have its own market software systems after establishment of an operational day ahead market. In order to implement market coupling between Turkey and Georgia, market operation rules of the two countries should be aligned. Currently, GNERC and EMRA are working cooperatively in harmonizing electricity market and grid operation rules for Georgia and Turkey. Before all the adaptations, an operational and effective market operator should be established in Georgia; and roles and responsibilities of the MO should be described clearly. As we are aware, Nordpool has proposed to support Georgia in the development of the Market Operator. As an alternative to that, Georgia could also consider EPIAS assistance in establishment of the Market Operator and furthering the coupling of the two markets.

Import/Export Rules and Capacity Allocation:

As mentioned by HPEP team, Interconnection Capacity Auction rules have recently been published in Georgia and it includes monthly oral auctions. Generally, oral auctions are not an effective mechanism to transition to a market mechanism since it may cause biases. Instead, an auction platform should be used for capacity allocation. An auction platform permits capacity requesters to send bids for the interconnection capacity and calculates the capacity price automatically according to the Net Transfer Capacity (NTC) values and the bids. An auction platform, TCAT, is used for the Turkish European border for monthly capacity allocation auctions. Simple but user-friendly software should be designed and developed for the Georgian interconnection, or GSE may cooperate with TEIAS in adaptation of TCAT software for Georgian auctions.

In order to achieve market coupling in the medium term, import/export regulations should be updated and implicit auctions should be inserted into the rules as the permitted mechanism. Definition of the mechanism, and operational procedures should be defined cooperatively with TSO's and MO's of both countries.

Market Rules:

First of all, Georgia should adapt hourly balancing and Georgian generators should be able to do daily planning and hourly scheduling. After transition to an hourly market, an operational hourly day ahead market should be established for market coupling (implicit auction), which includes development of the related regulation and software. As mentioned above, in order to have an operational day ahead market, Georgia should first have an operational market operator. The market operator should be responsible for operation of the spot market and the transmission system operator should be responsible for balancing.

Strong coordination between the market operators of Turkey and Georgia is crucial for market coupling. Roles and responsibilities should be well defined and especially settlement calculations should be harmonized accordingly. Steps that should be completed for an effective cross border trade are defined in the previous section for all of the trading alternatives.

Grid Operation Rules:

GNERC and EMRA are working cooperatively on harmonization of the Georgian Grid Code. Additionally, for operation of the grids and the interconnection, system operators of the both countries should be working cooperatively, especially on solving the issues regarding transmission system congestion.

Hourly metering is crucial for a developed, hourly operating spot market, therefore, the terms regarding hourly metering and its rules and procedures should be well defined in Georgian grid code. Additionally, quality parameters of the grid are very important for especially market coupling alternative. ENTSO-E has some requirements regarding the grid quality. Services that enhance grid quality, such as ancillary services, should be defined in the operation rules.

ENTSO-E has provided grants for establishing a common grid code for all the member countries. Turkey will be studying this issue in the near future, and it will be a medium term study. The Georgian TSO will also be affected with this study and some updates and amendments might be required in the Georgian Grid Code at that time.

6.0 MECHANISMS AND AN OUTLINE OF PROCEDURES THAT ENABLES GEORGIAN HPPS AND TRADERS TO SELL ENERGY WITH TURKEY OFF-TAKERS

Since a day-ahead market does not yet exist in Georgia, implicit auction and market coupling will not be possible between Georgia and Turkey in the short term. Therefore in this section, long term bilateral energy contracts between Georgian exporters/importers and Turkish importers/exporters will be discussed.

At present there is not any regulatory limitation for off-take contracts in Turkish side. However there are no contracts signed yet with off-takers in the Turkish energy market.

For Georgian traders to sell electricity with Turkish off-takers,

- Georgian HPP's should take into consideration the available transmission capacity in interconnection and get the right for capacity usage.
- Georgian HPPs should enter into a trade agreement with a Turkish counterparty, who is registered to Market Operator and has licensed balancing units in Turkey.

The following figure shows agreements that must be signed (especially for Turkish side) for trade with Georgian market participants.

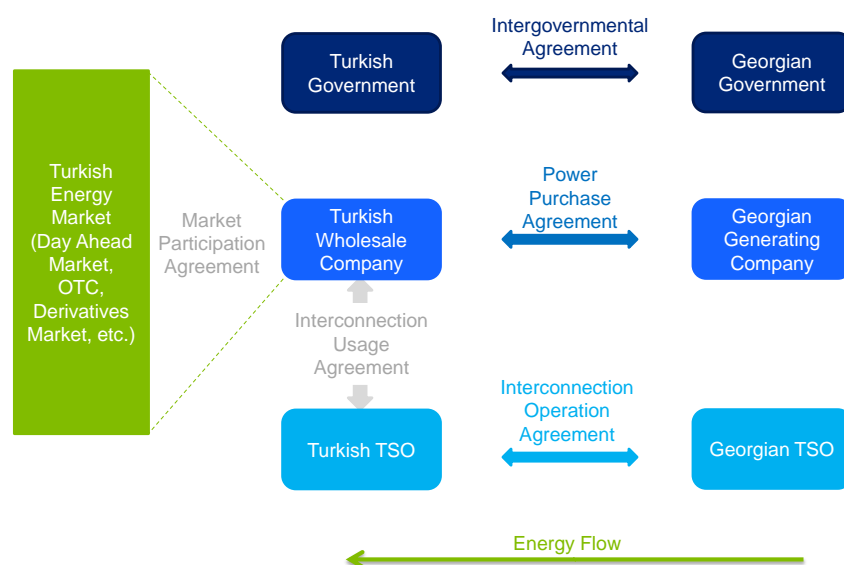


Figure 7 – Agreements for Trade with Turkish Off-takers

According to the Intergovernmental Cross Border Electricity Trade Agreement signed between the Turkish and Georgian Ministries on January 20, 2012 and approved by the Assembly on December 2012, the exporting country (for each month, determined the prior year) will allocate the capacity. Therefore, with Georgia as the exporting country most of the time, related rules, regulations and procedures should be in place on the Georgian side in order to make long term PPA's (or off-take agreements) possible. The rules should consider ways to secure long term capacity allocation for small HPP's, or prioritizing run off river HPP's in capacity auctions. The Georgian System Operator shall provide information to Turkish System Operator regarding the capacity of the contracts of exporters for the relevant utilization period and market requirements for such import/export operations. Nominations between TSO's are explained in more detail in next paragraphs.

It should also be noted that for capacity allocation in Georgian side, a "bulletin board" like TCAT, where market participants submit prices at which they are willing to buy/sell electricity at the border can be developed. After capacity is allocated, Turkish counterparty will be allowed to purchase that energy from Georgia, but the Turkish importer must inform EMRA about the trade agreement and apply for a license amendment as well as paying a license amendment fee every year.

Interconnection Usage Agreement

A recent development in the market regarding trade using an asynchronous connection is that March 11, 2014 an Interconnection Usage Agreement (between TEIAS and interconnection user in Turkey) regarding electricity export by asynchronous connection was approved and published by the TEIAS Board. Below is the general flow of activity according to the agreement:

- TEIAS arranges the daily (min and max capacity) schedules for electricity import by 09:30 in the day ahead, considering the capacity allocated and within the framework of Turkish and regional electricity system conditions.

- Market participant to whom the capacity is allocated receives the hourly schedules for that day from TEIAS by 10:30 in the day ahead and cannot object to this schedule.
- Market participant to whom the capacity is allocated applies to Market Operator to register its settlement aggregation entity pursuant to Balancing and Settlement Regulation. If the transmission line is allocated to more than one participant, this settlement aggregation entity is recorded on behalf of TEIAS. When the meter is read, TEIAS allocates the meter data considering their bilateral contracts volume and settlement is done using this data.
- Each day, market participant informs the Market Operator and System Operator about the electricity volume to be imported (as a daily generation schedule) taking into account its bilateral contracts volume and day ahead market transactions.

Detailed information about application procedure to EMRA for import/export activities

For a private energy generator in Georgia to export electricity to Turkey, he must sign a bilateral contract with a market participant in Turkey that has a wholesale generation license which include articles related to import and export activities. Below is the general procedure of application to EMRA to perform import/export activities:

- In order to import/export energy from Georgia, the market participant in Turkey must apply to EMRA with information and documents.
- When these documents are fully submitted to EMRA, EMRA asks the opinion of Ministry as well as the System Operator regarding technical issues.
- If the opinion is positive, the application is published on the website of EMRA. Retail sales licensee holders can also apply to EMRA to use the same line and take part in import/export activities within twenty days following the publication of application.
- In case there is more than one application, the System Operator is informed about those applications to finalize the work regarding capacity allocation within 45 days.

7.0 CONCLUSION

Turkey is synchronously parallel connected to ENTSO-E and monthly auctions are held for allocation of the capacity on the interconnection line. Other than synchronous parallel connection, Turkey has small amounts of trade between other neighboring countries. Among the neighboring trading partners, Georgia is a substantial candidate for imports with its rich hydro resources and with the new interconnection investments in Georgia, back to back stations and transmission line investments inside Turkey. Volume of the cross-border trade is expected to increase.

As mentioned throughout the report, suppliers in the Turkish market will contract with exporters in Georgia that have obtained interconnection capacity rights in an explicit auction. These Turkish suppliers can offer that energy into the Turkish market (or alternatively can transact through a bilateral power purchase agreement in Turkey).

This can be done by a licensed wholesale company in Turkey and with prior approval of the Regulator, by inserting this activity to their licenses.

Asynchronous parallel connection will be experienced for the first time in Turkey with Akhaltsikhe – Borçka line, and export from Georgia is expected to start in June 2014 through bilateral contracts. In addition to the standard agreement for asynchronous parallel operation on Turkish side that was published recently, it is strongly recommended that new rules and provisions be adopted regarding capacity allocation in cross border trade through asynchronous connections. These new rules and provisions should be similar to synchronous connection capacity allocation and trade permission rules (simplifying and speeding-up the procedures) in order to enhance trade between Turkey and Georgia so that utilization of the line is maximized. Additionally, additional infrastructure design in Georgia (rules, software etc) should be completed that allows long term trade with Turkish off takers since Georgia will be the exporting Country most of the time.

In addition to capacity allocation through explicit auctions, in the short term, PX node and implicit auction methodologies should also be considered in the medium and long term since they have many advantages compared to explicit auctions. For these options to become operational, changes in the existing market structure are required in Georgia such as a new market operator, legislative arrangements, and software development should be finalized and MO-MO agreements should be developed and signed.

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